

What Is Claimed Is:

1. An antenna system, particularly for radar applications in motor vehicles, comprising:
 - an antenna feeding substrate (1) having conductor structures for field coupling to one or more planar antenna radiating element(s) (2),
 - a mounting part (3), able to be fixed in position against the antenna feeding substrate (1), for the planar antenna radiating element(s) (2), the mounting part (3) itself or a housing part (5) able to be joined to it with form locking in particular being provided for the HF-shielding of the antenna feeding substrate (1), and the mounting part (3) and/or the housing part being structured in such a way that, viewed from the planar antenna radiating element(s) in the radiation direction, a wave guidance is achieved.
2. The antenna system as recited in Claim 1,
wherein the housing part (5) has bars (7) in the direction of the antenna feeding substrate (1) for forming HF compartments over the antenna feeding substrate (1).
3. The antenna system as recited in one of Claims 1 or 2,
wherein the planar antenna radiating element(s) (2) is/are applied on one or both sides of a dielectric substrate (9).
4. The antenna system as recited in one of Claims 1 through 3,
wherein the housing part (5) has at least one cut-out (14) for introducing the planar antenna radiating elements (2) or the dielectric substrate (9), in case the antenna radiating element(s) (2) is/are applied on the latter, or for forming at least one complementary, planar antenna radiating element, a cut-out (14) forming a slot antenna.
5. The antenna system as recited in one of Claims 1 through 4,
wherein the distance between the antenna feeding substrate (1) and the planar antenna radiating elements (2) or the dielectric substrate (9) on which they are applied is less than one fourth the operating wavelength, preferably 0.02 to approximately 0.1 of the operating wavelength.

6. The antenna system as recited in one of Claims 1 through 5, wherein in the region of the antenna radiating elements (2), the housing part (5) has at least one opening (6) in the direction of the antenna feeding substrate (1), and the transition from the bottom/end of the opening (6) to the outside of the housing part (5) is designed to be horn-shaped or funnel-shaped.
7. The antenna system as recited in one of Claims 1 through 6, wherein the mounting part (3) itself forms the housing part (5).
8. The antenna system as recited in one of Claims 1 through 6, wherein the mounting part (3) or the housing part (5) has an outer cover made of a dielectric material that is formed and dimensioned in such a way that it can be used as a radome or superstrate.
9. The antenna system as recited in Claim 8, wherein the outer cover (16), in the region of a cut-out (14), has at least one projection (15) that engages with form locking in the opening (6).
10. The antenna system as recited in Claim 9, wherein in the case of complementary (inverse) planar antenna radiating elements, the projections (15) protrude through the cut-outs (6).
11. The antenna system as recited in Claim 10, wherein the planar antenna radiating element(s) (2) is/are embedded, in particular injected into the dielectric mounting part (3).
12. The antenna system as recited in one of Claims 1 through 7, wherein the planar antenna radiating element(s) (2) is/are incorporated into a dielectric functional part (4) which is insertable, especially with form locking, into the mounting part (3) or the supplementary part (5), particularly into its opening (6).
13. The antenna system as recited in one of Claims 1 through 10, wherein the mounting part (3) has snap-in locking elements (19) for introducing and fixing the antenna radiating elements (2) in position.
14. The antenna system as recited in one of Claims 1 through 13, wherein M antenna radiating elements (2) are provided, and N associated coupling

slots (22) in the antenna feeding substrate (1) for the field coupling, M and N being natural numbers, and M preferably being greater than N.

15. The antenna system as recited in Claim 14,
wherein different distances are provided between the coupling slots (22) and/or the antenna radiating elements (2).
16. The antenna system as recited in one of Claims 1 through 15,
wherein at least two antenna radiating elements (2) are provided, stacked one above the other, at least one of the antenna radiating elements (2) in particular being incorporated into the dielectric functional part (4) or the radome.
17. The antenna system as recited in one of Claims 1 through 16,
wherein at least two planar antenna radiating elements (2) and/or inverse, planar antenna radiating elements are inclined relative to each other with respect to their surface normals.
18. The antenna system as recited in one of Claims 1 through 17,
wherein both planar antenna radiating elements and inverse, planar antenna radiating elements are provided, the inverse, planar antenna radiating elements (2) in particular being inclined relative to each other with respect to their surface normals.
19. The antenna system as recited in Claim 18,
wherein the number of planar antenna radiating elements (2) differs from the number of inverse, planar antenna radiating elements.
20. The antenna system as recited in Claim 18 or 19,
wherein the inverse, planar antenna radiating elements are situated in the mounting part (3), and the planar antenna radiating elements in the cover (15).